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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 06/05/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,738

Applicant(s)

HARVEY, RICHARD HANS

Examiner

Jean B Fleurantin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Claims 1-28 are remained pending for examination.

Response to Applicant' Remarks

2. Applicant's arguments filed on 3/10/2003 with respect to claims 1-28 have been considered but they are not persuasive.

Applicant stated on page 2, that "finds no teaching or suggestion in the cited art of a first table adapted for storing the data and having one row for each data entry; and creating a second table adapted for storing data components and having one row for each component of the data," as recited in independent claim 1. However, Examiner disagrees because Leung includes the DIT table holds the information of the structure of the DIT, each record contains the system identifier of an object that of its parent; which is equivalent to creating a first table adapted for storing the data and having one row for each data entry)(see page 88, lines 14-16); and creating a second table adapted for storing data components and having one row for each component of the data (thus, the ENTRY table holds detailed information about each directory, each record holds the system identifier of an object and an attribute value of an attribute type of the object in both normalized and raw forms; which is readable as creating a second table adapted for storing data components and having one row for each component of the data)(see page 88, lines 17-19). Further, see figure 2B. Thus the arguments are persuasive.

And claim 14 is rejected under the same rational basis as in claim 1, therefore the arguments are not persuasive.

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Applicant stated on page 3, that "Leung is not understood to teach or suggest determining a component of a given data entry and executing one of an exact or initial matching on the second table in order to locate the component," as recited in independent claim 22. However, Examiner disagrees because Leung includes the structural part of DIBP consists of two objects, DIT and ENTRY stored as two relational tables, the DIT table holds the information of the structure of the DIT, each record holds the system identifier of an object and an attribute value of an attribute type of the object in both normalized and raw form, the normalized values allow efficient value matching of all attribute types through the use of standard SQL query language; which is readable as determining a component of a given data entry and executing one of an exact or initial matching on the second table in order to locate the component, (see page 88, lines 15-20).

In response to applicant's argument on page 3, that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

As per claims 13 and 18, in addition to the discussion in claim 1, Leung teaches all the subject matter of claimed invention with the exception of an exact third table directed to one or more selected components of values and configured to have one row for each component of each value. However, Leung teaches the structural part of DIBP consists of two objects stored as two relational tables, each record holds the system

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identifier of an object and an attribute value of an attribute type of the object in both normalized and raw forms; which is readable as a third table directed to one or more selected components of values (see figure 4b, pages 87-88, lines 16-12). Thus it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Leung with a third table directed to one or more selected components of values. This modification would allow the teachings of Leung to improve the accuracy of the directory searching methods and systems; and provide a complete set of operations that can only be used to manipulate objects in the structural part (see page 88, lines 3-4).

Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 14-17 and 22-28 are rejected under 35 U.S.C. 102(b) as being anticipated by C.M.R. Leung 'GDSA-An X.500 Directory Implementation Supporting Heterogeneous Databases-1991' ("Leung").

As per claims 1 and 14, Leung teaches a method of arranging data in a database as claimed comprises creating a first table adapted for storing the data and having one row for each data entry (thus, the DIT table holds the information of the structure of the DIT, each record contains the system identifier of an object that of its parent, which is equivalent to creating a first table adapted for storing the data and having one row for each data entry)(see page 88, lines 14-16); and

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creating a second table adapted for storing data components and having one row for each component of the data (thus, the ENTRY table holds detailed information about each directory, each record holds the system identifier of an object and an attribute value of an attribute type of the object in both normalized and raw forms; which is readable as creating a second table adapted for storing data components and having one row for each component of the data)(see page 88, lines 17-19).

As per claims 2 and 15, Leung teaches a method as claimed, wherein the data is a structured data type (thus, the ENTRY table holds detailed information about each directory, each record holds the system identifier of an object, which is readable as wherein the data is a structured data type)(see page 88, lines 17-19).

As per claims 3 and 16, Leung teaches a method as claimed, wherein the data is a string data type (thus, the parameters are in a form that is independent of the storage structures of both DIT and ENTRY, if the function succeeds it returns the results if any; which is readable as wherein the data is a string data type)(see page 89, lines 18-20).

As per claim 4, Leung teaches a method as claimed, wherein the data is or represents a X.509 certificate (thus, DSEP decodes the request and passes the decoded request in the form of Directory Abstract Services with the appropriate parameters to DOP, when DOP finishes processing the request and returns the result to DSEP, DSEP encodes the results and sends it through the established connection back to the requesting DUA; which is readable as X.509 certificate)(see figure 1, page 87, lines 9-13).

As per claims 5 and 26, Leung teaches a method as claimed, wherein the component data is a checksum or fingerprint (thus, after collecting the results it passes them to DSEP in the form of directory abstract services results, the results may be

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positive or negative, negative results occur when errors are added detected during processing of the user requests; which is readable as wherein the component data is a checksum or fingerprint)(see page 87, lines 16-20).

As per claims 6 and 23, Leung teaches a method as claimed, where the database is a part of an electronic directory services system (thus, the database systems used form an indispensable part of the directory systems, which is equivalent to the database is a part of an electronic directory services system)(see page 85, lines 23-24).

As per claims 7 and 24, Leung teaches a method as claimed, where the electronic directory services system comprises an X.500 and LDAP services system (thus, an X.500 directory consists of one or more distributed Directory System Agents where directory information is kept and user requests are proposed, the DIT and DIB 'Directory Information' are partitioned and distributed in these DSAs each DSA also holds knowledge of the distribution of the DIT 'Directory Knowledge', all requests in the form of directory abstract services from directory users must be submitted through Directory User Agents acting as the interface between the suers and the X.500 directory, DUAs use the Directory Access Protocol 'DAP' to communicate with DSAs to allow for uniform distributed processing of user requests communication between a pair of DSAs is governed by the Directory System Protocol 'DSP'; which is readable as where the electronic directory services system comprises an X.500 and LDAP services system)(see page 86, lines 35-44).

As per claim 8, Leung teaches a database having a data storage arrangement as claimed, comprises a search table containing at least one row having a plurality of columns (thus, the structural part of DIBP consists of two objects, the DIT and ENTRY

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stored as two relational tables the DIT table holds the information of the structure of the DIT, each record contains the system identifier of an object that of its parent and its RDN, the RDNs are coded in such a way that matching them can be done efficiently, the ENTRY table holds detailed information about each directory object, each record holds the system identifier of an object and an attribute value of an attribute of the object in both normalized; which is readable as a search table containing at least one row having a plurality of columns)(see page 88, lines 14-20); and

a subsearch table containing at least one row having a plurality of columns including a component identifier column (thus, the ENTRY table holds detailed information about each directory object, each record holds the system identifier of an object and an attribute value of an attribute of the object in both normalized; which is readable as a subsearch table containing at least one row having a plurality of columns including a component identifier column)(see page 88, lines 17-19).

As per claims 9 and 10, Leung teaches the database as claimed, wherein the columns of the search table are in the form "EID, AID, VID, Norm", where EID identifies an object to which a value belongs, AID identifies an attribute type of the value, and VID identifies one of a possible number of attribute values in the one entry, and CID identifies the component identifier (thus, attributes and values, hierarchy and values, alias, data tolerance, hierarchy; which is equivalent to wherein the columns of the search table are in the form "EID, AID, VID, Norm", where EID identifies an object to which a value belongs)(see figure 2A, conceptual design, implementing X.500 in a RDBMS, attributes and values, hierarchy and values, alias, data tolerance, hierarchy).

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As per claim 11, Leung teaches a database as claimed, further comprises a subattribute table containing at least one row having a plurality of columns in which a description or reference to the subsearch table is provided (thus, the ENTRY table holds detailed information about each directory object, each record holds the system identifier of an object and an attribute value of an attribute of the object in both normalized; which is readable as a subattribute table containing at least one row having a plurality of columns in which a description)(see page 88, lines 17-19).

As per claim 12, Leung teaches a database as claimed, wherein the columns of the subattribute table are in the form "CID, SYN, DESC, OBJECT ID, FLAGS"(see figure 2A, conceptual design, implementing X.500 in a RDBMS, attributes and values, hierarchy and values, alias, data tolerance, hierarchy).

As per claim 17, Leung teaches a system as claimed, being an X.500 or LDAP directory services system (thus, an X.500 directory consists of one or more distributed Directory System Agents where directory information is kept and user requests are proposed, the DIT and DIB 'Directory Information' are partitioned and distributed in these DSAs each DSA also holds knowledge of the distribution of the DIT 'Directory Knowledge', all requests in the form of directory abstract services from directory users must be submitted through Directory User Agents acting as the interface between the users and the X.500 directory, DUAs use the Directory Access Protocol 'DAP' to communicate with DSAs to allow for uniform distributed processing of user requests communication between a pair of DSAs is governed by the Directory System Protocol 'DSP'; which is readable as being an X.500 or LDAP directory services system)(see page 86, lines 35-44).

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As per claim 22, in addition to the discussion in claim 1 above, Leung teaches steps of determining a component of a given data entry (thus, adds a new entry, which is equivalent to a given data entry)(see page 89, line 6);

executing one of an exact or initial matching on the second table in order to locate the component (thus, the RDNs are coded in such a way that matching them can be done efficiently, which is readable as executing one of an exact or initial matching on the second table in order to locate the component)(see page 88, lines 15-19); and

returning the given data entry matching the component located (thus, each record holds the system identifier of an object and an attribute value of an attribute type of the object in both normalized and raw form, the normalized values allow efficient value matching of all attribute types through the use of standard SQL query language; which is readable as returning the given data entry matching the component located)(see page 88, lines 15-20).

As per claim 25, in addition to the discussion in claim 4 above Leung teaches steps of and or a check sum of the data and or a fingerprint of the data (thus, after collecting the results it passes them to DSEP in the form of directory abstract services results, the results may be positive or negative, negative results occur when errors are added detected during processing of the user requests; which is readable as a check sum of the data and or a fingerprint of the data)(see page 87, lines 16-20).

As per claim 27, Leung teaches a method as claimed, wherein the search is conducted using a search table to locate the fingerprint or checksum (thus, after collecting the results it passes them to DSEP in the form of directory abstract services results, the results may be positive or negative, negative results occur when errors are added detected

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during processing of the user requests; which is readable as wherein the search is conducted using a search table to locate the fingerprint or checksum)(see page 87, lines 16-20).

As per claim 28, Leung teaches a method as claimed, further wherein components of the checksum or fingerprint are searched (thus, after collecting the results it passes them to DSEP in the form of directory abstract services results, the results may be positive or negative, negative results occur when errors are added detected during processing of the user requests; which is readable as wherein components of the checksum or fingerprint are searched)(see page 87, lines 16-20).

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over C.M.R. Leung 'GDSA: An X.500 Directory Implementation Supporting Heterogeneous Databases-1991' ("Leung").

As per claims 13 and 18, in addition to the discussion in claim 1, Leung teaches all the subject matter of claimed invention with the exception of an exact third table directed to one or more selected components of values and configured to have one row for each component of each value. However, Leung teaches the structural part of DIBP

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consists of two objects stored as two relational tables, each record holds the system identifier of an object and an attribute value of an attribute type of the object in both normalized and raw forms; which is readable as a third table directed to one or more selected components of values (see figure 4b, pages 87-88, lines 16-12). Thus it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Leung with a third table directed to one or more selected components of values. This modification would allow the teachings of Leung to improve the accuracy of the directory searching methods and systems; and provide a complete set of operations that can only be used to manipulate objects in the structural part (see page 88, lines 3-4).

As per claim 19, Leung substantially teaches a directory services system as claimed, wherein the data is a structured data type (thus, the parameters are in a form that is independent of the storage structure of both DIT and ENTRY, which is readable as a structured data type)(see page 89, lines 18-19).

As per claim 20, Leung substantially teaches a directory services system as claimed, wherein the data is a string data type (thus, the parameters are in a form that is independent of the storage structure of both DIT and ENTRY if the function succeeds it returns the results if any, which is readable as a string data type)(see page 89, lines 18-20).

As per claim 21, substantially Leung teaches a system as claimed, being an X.500 or LDAP directory services system (thus, an X.500 directory consists of one or more distributed Directory System Agents where directory information is kept and user requests are proposed, the DIT and DIB 'Directory Information' are partitioned and

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distributed in these DSAs each DSA also holds knowledge of the distribution of the DIT 'Directory Knowledge', all requests in the form of directory abstract services from directory users must be submitted through Directory User Agents acting as the interface between the users and the X.500 directory, DUAs use the Directory Access Protocol 'DAP' to communicate with DSAs to allow for uniform distributed processing of user requests communication between a pair of DSAs is governed by the Directory System Protocol 'DSP'; which is readable as being an X.500 or LDAP directory services system) (see page 86, lines 35-44).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

6. Any inquiry concerning this communication from examiner should be directed to Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on Monday through Friday from 7:30 A.M. to 6:00 P.M.

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If any attempt to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Mrs. KIM VU can be reached at (703) 305-8449. The FAX phone numbers for the Group 2100 Customer Service Center are: *After Final* (703) 746-7238, *Official* (703) 746-7239, and *Non-Official* (703) 746-7240. NOTE: Documents transmitted by facsimile will be entered as official documents on the file wrapper unless clearly marked "**DRAFT**".

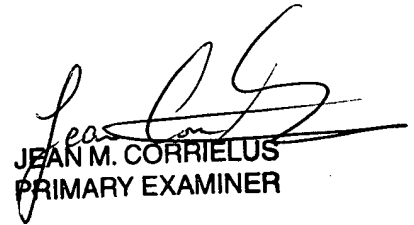
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2100 Customer Service Center receptionist whose telephone numbers are (703) 306-5631, (703) 306-5632, (703) 306-5633.



Jean Bolte Fleurantin

May 19, 2003

JBf/



JEAN M. CORRIELUS
PRIMARY EXAMINER